

Our Reference: CMJ-112-A

PATENT

TRUCK/CAB WINDOW CLEANING APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of Design Application Serial No. 29/180,042, filed on April 17, 2003, and a continuation-in-part of Design Application Serial No. 29/187,669, filed on August 5, 2003.

FIELD OF THE INVENTION

[0002] The invention relates to an apparatus for cleaning a window of a motor vehicle, and more particularly, is well adapted for cleaning a window located in a narrow clearance space between a passenger compartment of a pick-up truck and a cab enclosure covering a bed of the pick-up truck.

BACKGROUND OF THE INVENTION

[0003] It is popular among pick-up truck operators to install a cab or hard cover over a bed of the pick-up truck. In many cab configurations, the clearance space between the rear window of the truck and front window of the cab is on the order of less than 2 inches. The minimal amount of clearance makes cleaning the opposing truck and cab windows a difficult task. The task can be even more difficult with configurations where one or both windows are curved, particularly when curved toward one another.

[0004] A window cleaning device for a car or a truck typically includes a cleaning head attached to a handle. The head typically includes a cleaning sponge located in an elongate channel extending along one side of the head transverse to a longitudinal axis of a handle. The head can also include a second channel supporting a rubber blade on an opposite side for removing cleaning fluid from the window. The typical handle can be an elongate cylinder or shaft and can be difficult to firmly grip. The typical head can be too wide to fit between the passenger compartment of the truck and the cab or hard cover enclosing the bed of the truck.

SUMMARY OF THE INVENTION

[0005] The present invention provides an apparatus for cleaning a window associated with the narrow clearance between a passenger compartment of a pick-up truck with a cab enclosure over the bed. The cleaning apparatus includes an enlarged

end, an elongate middle portion, and an enlarged opposite end. The enlarged end can receive a soft covering for cleaning the window surface, and can include means for gripping the soft covering, such as hook shaped portions. The enlarged end can include an integral handgrip adjacent an outer edge. The enlarged opposite end can also include a squeegee portion. The middle portion can include one or more reinforcement ribs or integral stiffeners to increase rigidity.

[0006] Other objects, advantages and applications of the present invention will become apparent to those skilled in the art when the following description of the best mode contemplated for practicing the invention is read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The various features, advantages, and other uses of the present invention will become more apparent by referring to the following detailed description and drawing in which:

[0008] FIG. 1 is a perspective view of a truck/cab window cleaning apparatus comprising an enlarged end, an elongate middle portion, and an enlarged opposite end, the cleaning apparatus having a hand grip located on at least one of the outer edges according to the present invention;

[0009] FIG. 2 is a plan view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIG. 1;

[0010] FIG. 3 is a side elevational view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 1-2;

[0011] FIG. 4. is an end elevational view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 1-3;

[0012] FIG. 5 is bottom view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 1-4;

[0013] FIG. 6 is a perspective view of a truck/cab window cleaning apparatus including an enlarged end, an elongate middle portion, and an enlarged opposite end, the cleaning apparatus having a hand grip located at least on two opposite outer edges according to the present invention;

- [0014] FIG. 7 is a plan view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIG. 6;
- [0015] FIG. 8 is a side elevational view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 6-7;
- [0016] FIG. 9. is an end elevational view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 6-8; and
- [0017] FIG. 10 is a bottom view of the truck/cab window cleaning apparatus according to the present invention as illustrated in FIGS. 6-9.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

- [0018] Various embodiments are shown throughout the Figures illustrating the present invention, and include common elements in different structural configurations where common elements are designated with a common base numeral and differentiated with a different alphabetic designation for the various embodiments. Descriptions for the base numeral designations are considered to be generic to the different alphabetic extensions added to the alternative embodiments except as specifically noted herein.
- [0019] Referring now to Figures 1-5, a truck/cab window cleaning apparatus according to the present invention includes a single, unitary, one-piece, generally planar, elongate body 10 having a first enlarged end 12, an elongate middle portion 14 and a second enlarged end 16 opposite from the first end 12. The enlarged end 12 can receive a replaceable soft material cleaning cover 30. By way of example and not limitation, the cover 30 can be a cleaning mitt made of a soft cloth material or a sponge material. The enlarged end 12 can include means 18 for gripping and holding the cloth covering in place on the enlarged end 12. By way of example and not limitation, the gripping means 18 can be in the form of outwardly extending hooks to operably engage and hold the hollow sleeve or mitt of soft material. The elongate middle portion 14 extends between the first and second ends 12, 16, and can include integrally formed peripheral ribs 20 or transversely extending stiffeners 22 to increase rigidity of the middle portion 14. By way of example and not limitation, the ribs 20 and/or stiffeners 22 can be located on at least one side, and preferably both sides, of the body 10. A squeegee portion 24 can be provided attached to the second end 16, if

desired. The body 10 can include a hand grip 26 extending along an outer peripheral edge 28 of the second end 16. In the illustrated embodiment, the body 10 can include inwardly extending notches formed spaced longitudinally from one another along a longitudinal length of the elongate middle portion 14. The transversely extending stiffeners 22 can be angled transversely across a surface of the middle portion from one notch on one side of the middle portion to another notch formed on an opposite side of the middle portion defining a "zig-zag" pattern. The stiffeners 22 on an opposite side of the body can alternate the "zig-zag" pattern, such that an "X" shape stiffener is defined when viewing the body with the stiffener of one surface shown in solid line and the stiffener of an opposite surface shown in hidden line, as best determined by close comparison of Figures 2 and 5.

[0020] Referring now to Figs. 6-10, a truck/cab window cleaning apparatus according to the present invention includes a single, unitary, one piece, generally planar, elongate body 10a having a first enlarged end 12a, an elongate middle portion 14a, and a second end 16a opposite from the first end 12a. The enlarged end 12a can include means 18b for gripping and holding a replaceable soft material cleaning cover 30a. The cleaning cover 30a can be a hollow sleeve cleaning mitt or glove, by way of example and not limitation, made of a soft cloth material or a sponge material. The elongate middle portion 14a of the body 10a extends between the first and second ends 12a, 16a, and can include peripheral ribs 20a or transversely extending stiffeners 22a formed on along one or more sides of the body 10a. The second end 16a can include an integral handgrip 26a located along an outer peripheral edge 28a of the end 16a. The second end 16a can also include a squeegee portion 24a, if desired. The squeegee portion 24a can include a squeegee blade 30a located on one or both sides of the body 10a. In the illustrated embodiment, the body 10a can include inwardly extending notches formed spaced longitudinally from one another along a longitudinal length of the elongate middle portion 14a. The transversely extending stiffeners 22a can be angled transversely across a surface of the middle portion from one notch on one side of the middle portion to another notch formed on an opposite side of the middle portion defining a "zig-zag" pattern. The stiffeners 22a on an opposite side of the body can alternate the "zig-zag" pattern, such that an "X" shape stiffener is

defined when viewing the body with the stiffener of one surface shown in solid line and the stiffener of an opposite surface shown in hidden line, as best determined by close comparison of Figures 7 and 10. An additional longitudinally extending stiffener can be provided extending along a substantial portion of the longitudinal length of the elongate middle portion can be provided, if additional rigidity is desired.

[0021] While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiments but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims, which scope is to be accorded the broadest interpretation so as to encompass all such modifications and equivalent structures as is permitted under the law.